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Midwives' decision making about transfers for 'slow' labour in rural New Zealand

Midwives who provided Lead Maternity Care (LMC) to women in rural areas were invited to share their experiences of decision making around transfer in labour.

Ethics approval was obtained from the NZ National Ethics Committee.

Objective: To explore midwives' decision making processes when making transfer decisions for slow labour progress from rural areas to specialist care.

Design: Individual and group interviews were conducted with a purposive sample of rural midwives. The recalled decision processes of the midwives were subjected to a content and

thematic analysis to expose experiences in common and to highlight aspects of probabilistic (normative), heuristic (behavioural), and group decision making theory within the rural context.

Setting: New Zealand

Participants: 15 midwives who provided LMC services to women in their rural areas.

Findings: "Making the mind shift", "sitting on the boundary", "timing the transfer" and "the community interest" emerged as key themes. The decision processes were also influenced by the woman's preferences and the distance and time involved in the transfer.

Key conclusions and implications for practice: The findings contribute insights into the challenge of making transfer decisions in rural units; particularly for otherwise well women who were experiencing slow labour progress. Knowledge of the fallibility of our heuristic decision making strategies may encourage the practitioner to step back and take a more deliberative, probabilistic view of the situation. In addition to the clinical picture, this process should include the relational and aspirational aspects for the woman, and any logistical challenges of the particular rural context.

Key words:

Decision making; Decision theory; Midwives; Rural area; Slow labour; Rural transfer

Introduction

Making decisions is a day-to-day human activity. For midwives in rural areas this decision making includes the need to transfer some women to specialist care, during labour. The timing of transfer decisions is critical for the wellbeing of women and their babies (Raynor & Bluff, 2005) and requires the midwives to work with others to facilitate transfer, mindful of the particulars of their rural context. Sound and timely decisions keep women and babies safe and also enhance the reputation and viability of the local maternity service.

Slow labour progress is a common reason to consider transfer (Altman & Lydon-Rochelle, 2006). While this decision is rarely an emergency, in rural areas the issues of distance and time required to access secondary care also need to be considered. This paper describes the recalled decision making processes of 15 rural New Zealand midwives caring for women who experienced slow

labour progress in the first or second stages of labour. In order to place the study in both the international and the New Zealand context, rural transfer rates and patterns are reviewed, and the New Zealand rural midwifery context is explained.

Incidence of transfer from rural primary maternity units

The rate of transfer from rural maternity units to specialist services varies in international studies depending on the sensitivity of the country's referral policies, and on the methodologies used to collect the data (Carlo et al., 2011; Fullerton et al., 1997; J.P. Skinner & Foureur, 2010; Walsh & Downe, 2004). In the UK, a prospective cohort study of all midwifery managed free-standing units (FMU) and alongside units (AMU) found an overall transfer rate of 25% (95% CI, 23.5-27.2) of women. In AMUs the rate was 21% and 27% for FMUs. Many of the women planning to birth in the midwifery units transferred in labour, or within 24 hours of birth, with nulliparous women aged under 20 having the highest odds of transfer (AOR, 4.51, 95% CI 3.10-6.57) (Rowe, Fitzpatric, Hollowell, & Kurinczuk, 2012). In the sparsely populated area of North Jutland in Denmark a matched cohort study found that 839 low-risk women birthed safely in their planned FMU (Overgaard, Møller, Fenger-Grøn, Knudsen, & Sandall, 2011). Of those women transferred 14.8% transferred during or within 2 hours of birth; 44.4% for failure to progress. In New Zealand a survey of two years' transfer data in 30 rural units found an overall transfer rate of 17% (J.A. Patterson, Foureur, & Skinner, 2011). The percentage of transfers from these NZ units ranged from 5% to 37% with no consistent relationship between distance to the referral centre and the number of transfers identified. The most common reason cited for transfer in labour was slow labour progress; a consistent finding in most other studies, irrespective of population, location and methodological variables.

In New Zealand the option to birth in a rural maternity unit is supported by government grants to assist the establishment of midwifery practices in underserviced, and remote rural areas (Hendry, 2011). Further, a rural midwifery retention scheme provides financial support for midwives to receive mentoring, and to provide locum cover for periods of leave (Kyle & Hendry, 2012). Approximately 16% of New Zealand women give birth in one of 48 primary maternity units located in urban, rural or remote-rural locations, 32 of which are more than an hour's drive from a base obstetric hospital where specialist obstetric care is available (Kyle & Hendry, 2012). For all transfers in pregnancy and labour, referral guidelines (Ministry of Health, 2012) have been collaboratively developed to assist with decisions about transfer and

in the case of rural units, include the requirement to consider the particulars of the rural context when making the decision. However, decisions about transfer are influenced not only by the clinical condition and physical location, but also by a range of human emotions, perceptions of risk, (Cheyne et al., 2012; Noseworthy, Phibbs, & Benn, 2013; van der Hulst et al., 2007), and preferred decision strategies of both midwives and women.

Decision making processes and the subsequent human actions are important aspects to consider when looking at how referral takes place. These processes are complex and multifactorial and decision making theory can help, both to make sense of the decision and to support sound decision making. Individuals apply a range of decision strategies, described in this study as probabilistic (normative) and heuristic (behavioural). Irrespective of the decision strategies used, the final decision about and timing of transfers is made in consultation with the woman, her family, colleagues, and hospital specialists. Thus, decision theory strategies and the influences of group decision processes are explored in relation to the findings of this study.

Probabilistic decision theory suggests a linear, logical and rational process. The process diverges only when it becomes apparent that another decision needs to be made (Price, 1763). This strategy is described by Kahneman (2011) as 'slow' thinking, requiring the decision maker to make a fresh decision at each point in the process (Bell, Raiffa, & Tversky, 1988). While best applied to games of chance, this 'Bayesian' rule of probability has been applied to clinical situations with normative models incorporated into guidelines, decision trees and treatment protocols (Bell et al., 1988).

Decision trees and guidelines can assist with problem solving in practice, but there is a danger if they become overly prescriptive (McNeil, Pauker, & Tversky, 1988) and are applied rigidly in situations where outcomes are less predictable (Hillel & Hogarth, 1988). For example when labour slows in the first or second stages, midwives in New Zealand must recommend to the woman that a consultation with a specialist is warranted (Ministry of Health, 2012). This consultation has been most commonly associated with predetermined rates of cervical dilatation (Friedman, 1978), but it is now understood that slower rates of dilatation are acceptable for well women (Zhang et al., 2010) and other signs of labour progress such as foetal movements and maternal vocalisations assist experienced midwives to gauge labour progress (Walsh, 2000). While women experiencing a prolonged first stage of labour have increased odds of caesarean delivery and chorioamnionitis (Cheng, Hopkins,

& Caughey, 2004), the findings of a study by Altman and Lydon-Rochelle (2006) are reassuring in that they found no association between prolonged second stage of labour and adverse neonatal outcomes. Therefore, for most human situations probabilistic models alone will not resolve all clinical problems, nor predict decision making behaviour (Bell et al., 1988).

Arguably our everyday decisions and actions are assumed to be "purposive and goal directed" (Bell et al., 1988, p. 113), but they cannot be assumed to be totally rational given that we have only partial information available to us. Thus our human responses to problem solving are commonly described as heuristic (rule of thumb or trial and error). Tversky and Kahneman (1974) suggest that our view of the situation is influenced by using devices such as representativeness and availability. These biases intrude when we decide that something is similar or representative, of a situation we have met before and is thus more readily available to us. Therefore we are unlikely to stop and calculate the rarity, or commonness of this event (Tversky & Kahneman, 1974). For example if we had recently needed to manage a baby with a low Apgar score at birth following a prolonged labour, this consequence may be vividly in our mind should the next woman we care for also experience a slow labour. Thus a prior experience can lead to overestimating what might be a consequence without submitting the current event to a probability test. This heuristic decision making behaviour is described as fast thinking by Kahneman (2011) who suggests that we rush to reach available solutions, to resolve problems quickly rather than taking time to wrestle with the numbers.

Another contribution to decision theory is made by Reason who suggests that in order to make sense of a messy situation we attempt to find a familiar pattern or schema (Reason, 1994). This response is akin to the concept of 'anchoring' where a first finding anchors us to a particular decision pathway (Gilchrist & Bonato, 1995). This may mean that we only see what we expect to see; this perspective determining how willing we are to change our perception in the light of new information. If we do change our perception, it is usually in small increments.

These heuristic approaches of representativeness, availability, and anchoring are, according to Cioffi (1997; 2012) the servants of intuition. In clinical decision making 'intuition' or 'implicit knowledge', is considered the mainstay of the experienced practitioner (Morris, 1972) and is thought to be associated with a mix of practice experience, pattern recognition, and a blended

knowledge of the sciences (Cioffi, 2012; Siddiqui, 2005). This combination provides a gestalt, or sense of the overall issues, leading to a response which, appears to be intuitive. Such actions by experienced practitioners are often difficult to capture in order to untangle the cognitive processes involved (Nakielski, 2005). Nonetheless, the perceived degree of competence attributed to intuition has been shown to be inflated by those with limited experience in a particular field, or by those with deficient self-knowledge and reflective capacity (Kruger & Dunning, 1999).

While individual perceptions of risk and decision strategies (both probabilistic and heuristic) contribute to rural transfer decisions, in situations of slow labour, personal and contextual circumstances are also influential. For the rural midwives, transfer decisions are made in collaboration with the woman and her family, local colleagues, and following discussion with specialists at the referral hospital. While this collaboration has the potential to contribute valuable alternate perspectives, it also adds to the number of heuristic strategies brought to the decision. In addition, differences in power relationships, persuasive and charismatic characteristics in the group consulted can polarise the opinion. (Brandstatter, H., & Stocker-Kreichgauer, 1982) or resort to 'group think'(Janis, 1972) where consensus is desired and dissent suppressed, Thus some group processes may not produce the 'slow thinking' advocated by Kahneman (2011).

Brandstatter et al. (1982) suggest that in order to gain insight into an individual's decision making it is valuable to have them describe and interpret their decision making process: particularly where direct observation is not feasible. Thus, the purpose of this study was to explore how the rural midwives arrived at their decisions concerning transfer for women in rural maternity units experiencing slow labour and to explore these reflections in relation to decision theory.

Methodology

This research was undertaken by interviewing practicing rural midwives. To engage the midwives it was important to fit around their work reality and to meet them where they felt most comfortable to talk about their decision making. Thus a flexible and pragmatic approach consistent with a naturalistic inquiry was used to enable maximum participation.

Participants

Individual and small group interviews were conducted with a purposive sample of 15 midwives who provided Lead Maternity Care (LMC) to women in their rural areas. An advertisement was placed in the New Zealand College of Midwives Journal and flyers were mailed to all facilities and

to rural practices in the South Island of New Zealand. The midwives who responded signed a consent form and agreed to a digitally recorded interview. Information about the midwives was gathered in the first phone conversation. Each midwife was currently working in a rural area and had previously worked in urban, rural or homebirth settings, or a mix of all three. One was working in the North Island and the rest in the South and their rural practice experience ranged from less than 12 months to more than 40 years.

The interviews were recorded and lasted between one and two hours. Some interviews were postponed due to the midwife's work commitments or adverse weather conditions. Two interviews were undertaken over the telephone; two at midwives' homes, and the remainder were conducted in rural workplaces in three small colleague groups. Five open-ended questions were asked of each midwife or group of midwives and were provided in advance of the interview. These included what brought them to rural practice, issues for them when considering transfer, who contributes to that transfer decision and any particular benefits or challenges they had experienced while working in the rural environment. Following the interview each midwife had the opportunity to add or withdraw any comments. One additional comment was added but no requests were made to delete any parts of the transcripts. Ethical approval for the study was obtained from the NZ National Ethics Committee, No. MEC/06/05045.

Data analysis

A pragmatic approach to thematic analysis described by Aronson (1994) was used. This involved listing the patterns of experiences from the transcribed conversations. The patterns were then expanded with the addition of conversations that fitted under the specific identified pattern. These were then combined into broader patterns with sub themes which allowed the fragments and ideas to come together in a related whole. A valid argument was built which incorporated the related literature thus allowing the researcher to make inferences from the collated themes.

Consistent with this approach the sound files were downloaded onto a laptop, and diary and field notes added. The voice files were listened to and transcribed by the researcher. Each file was assigned a code and any comments that would identify individuals or facilities replaced with a synonym. Nvivo7 software package was used to search for words and categories netting 62 initial nodes. The printed transcripts were further examined by hand to highlight words and phrases. Categories from both processes were combined or eliminated where they did not relate directly to the focus of the research. From this process four themes were identified which were associated

with decision making when labour slowed. These were, 'making the mind shift', 'sitting on the boundary', 'timing the transfer' and 'community interest'. Each theme is presented in the following section together with quotes from the participants.

Findings

Variable progress in labour is commonly encountered in rural midwifery practice and these individual rhythms are well understood by rural midwives. As noted previously, slow labour progress is the most common reason for transfer and the midwives' reflections reveal how decisions were arrived at for whether or not to transfer. These include coming to the realisation that the labour had slowed, awareness of the impact it may have on the woman's aspirations for a local birth, and when transfer decisions were made, how transfer was arranged.

Making the mind shift

The midwives needed to decide whether the slowing of labour was a variation of a normal labour pattern or whether the possibility of transfer should be raised with the woman. The midwives described this process as a gradual 'mind shift' and an increasing realisation that the woman's labour might be moving from normal to abnormal.

> "…is this normal or am I keeping this normal or am I normalising something that is abnormal? Or other way around, abnormalising what is normal". (m. 11)

> And the challenge … here for me is finding the balance and working out when the normal becomes the abnormal…(m.3)

The midwives described the dilemma of whether or not to wait for progress and for some, tiredness was a factor in the decision to transfer.

> I have had a few [that I transferred] and I have had a few where I got very close to it. Because things start slowing down and you have to make that call… (m. 8)

> I decided to take her [to hospital] because I didn't know if she was going to deliver normally and it turned out I might not have made that decision if I hadn't been tired… (m.3)

The midwives in two of the rural areas were reluctant to voice their growing unease to the woman at this point. Rather they conferred with a colleague to bring another perspective to the situation before discussing the possibility of transfer.

> …when you are getting into the early hours of the morning [it is valuable] to be able to call on your colleagues and say, this is the situation and I need your input into looking objectively at where we are at. Help me make some decision*s.* (m.15)

> [My] focus is normal and I am willing it to happen and it is very difficult to make that mind shift myself. OK I need to stop here and often that is the time we need each other's support to find out, and maybe [for our colleague] to say well I really do think…(m.13)

> I think for rural midwives having a good working relationship with a good colleague because it really feels good when I know I can call her and she will come immediately and together we will manage it (m.5).

Sitting on the boundary

When the midwives shared their unease about the slowing of labour progress with the woman, decisions about whether or not to consider transfer appeared to depend on how keen the woman was to stay in the rural setting, how motivated she was to keep trying, and her tolerance for risk.

> I think there are those that want to keep going and there are others who are too sore and tired (m.12)

What the midwives were clear about though was that a decision to transfer in labour would be made much sooner if the woman requested it.

> [You] never push the boundaries with someone who wasn't feeling safe. If a woman wanted to go transfer to [hospital] I would never push boundaries (m. 9).

However, when labour slows close to, or in second stage the midwives were balancing the aspirations of the woman with their own perceptions of the situation, aware also of notional labour time frames and referral guidelines.

> …say the transfer in second stage, how long do you wait and hope that it is going to happen? (rhetorical question to interviewer) So how important is it to make that decision in a time frame? (rhetorical question to interviewer). We have guidelines of course … [but] sometimes you may extend that time. (m.4)

> I had one [woman] in December, she was labouring here and got all the way to fully, she was just a workhorse. She pushed and pushed, standing up, hands and knees and on the commode but after two hours and no descent we went to [hospital] (m.7).

> I had one who pushed for three hours and [birthed her baby beautifully] she was very grateful that she didn't get shipped out. (m.11)

The midwives were aware that delaying a transfer could result in additional distress for the woman and baby but if they moved too early the baby could be born in an environment less safe than the planned birth place. One commented. "…I will not shift if I think the baby is going to be born on the road. We stay right where we are" (m.6).

Timing the transfer

Once there is a shared concern with the woman and colleagues about labour progress the challenge is to get the timing of the transfer decision right. In rural areas this decision includes preparations with the woman and her whānau (family), consultation with the referral centre, and arranging the transport. Of key importance was the time and distance they needed to travel. Road ambulances are the mainstay for transfers in labour and local knowledge was needed to know who to contact and also what else might be happening in the rural area.

> And I was lucky enough to have my first two years with an older colleague who was very experienced around transfer. She knew the systems really well so she knew who to phone, so when you have knowledge of the area it makes a difference. (m. 6)

This local knowledge was critical in the following scenario and showed how innovative the midwife needed to be. From this rural setting the midwife was 3 hours by road from the nearest referral hospital.

> I had a [woman] that was pushing and ran out of steam. The baby was fine…but we decided to go to [the hospital]. We ordered an ambulance but they said sorry there

> is no ambulance [available], but they rang back and said there was a helicopter at an open day in [a nearby town] do you want it? Yep. But she didn't really need a helicopter but it made is so much easier. She got down to [the city hospital] and she just needed a little help to birth her baby. (m.9)

Similarly, weather and road conditions could affect transfer times and also needed to be factored into the timing of the transfer decision.

> …there is a conversation about how are we going to transfer whether we use the helicopter which would definitely make things shorter but most times the weather doesn't allow that. (m./3/2)

The midwife below demonstrates her movement to logical thinking around her transfer decision that reflected her rural context.

> You make [the decision to transfer] a little bit early because you have to drive for one and half hours and sometimes when you really believe in a normal birth and they have made no progress you try a lot of things and maybe transfer maybe two or three hours after no progress… I ask "what the risk is at this moment, and what is the best to do now?" … because the decision making is sometimes different than for city midwives but I also think risk assessment is so important when you can think logical[ly] this makes it much easier than making decisions in panic. (m.5.)

The community interest in birth

The rural midwives are a visible and integral part of their local communities, who often know well the women they care for. While this 'embeddedness' in a community can be supportive; "…the community is absolutely outstanding and I feel very privileged to be a part of it actually; [I am] very spoilt" (m.6) word spreads quickly and stories of dramatic transfers in labour and this can affect the confidence of other local woman.

> I had a woman a few months ago who had a prolonged second stage and she was transferred in second stage and had a cesarean …and after that we had a lot of women saying they wanted to birth at [the secondary facility] because they didn't want to transfer in second stage. And it does have a ripple effect through the community. (m.4)

The midwives know that some members of the community are skeptical about the safety of birth in their rural areas so that even when a reasonable decision is made it can influence future practice.

> But it does come back when something goes awry and like there was someone who went past the ten days and they had a stillborn baby then all of a sudden everybody wants to induce their babies when they go past their due date. (m.5.)

Local doctors and other health professionals are often very influential in terms of advice about where women should give birth. In most areas these relationships are positive and affirming of the rural maternity service. However some unprofessional and unwarranted comments influence women in the community.

> Some conversations can undermine the confidence of women about birthing here. Comments like "why you would ever think of birthing at [the local maternity unit?]" (m.9)

As a counter to these comments the right word in the right place, particularly from a doctor or consultant, can influence the woman and her family's perception of the midwife's actions. In one situation a doubtful father was reassured when arriving at the hospital.

> It was great [the obstetrician] was very, very good. When you consider how it could have been before they left here. The dad was questioning things, well that completely went [after the obstetrician affirmed the actions of the midwife]. (m.4)

Thus in making decisions about whether or not to transfer in situations of slow labour these rural midwives needed to balance their own perceptions and confidence of labour progress, the woman's aspirations for her birth, whether or not she wanted to continue, and their need to carefully consider the timing of the transfer. In addition they were mindful of the intense community interest in local birth events.

Discussion

In the rural setting normal birth is expected. This primary environment supports the physiological processes of labour (Odent, 2008). It offers safety and satisfaction factors, such as continuous midwifery care, privacy and space for women to birth without assistance (Foureur, 2008; Foureur et al., 2010) analogous to Fahy's (2008) the notion of a "birth sanctum" (p. 19). Birth in primary units potentially provides some protection from unnecessary intervention particularly for primiparous women who have been shown to be more likely to be diagnosed with dystocia and more likely to be transferred for prolonged labour and to have a caesarean section (Lowe, 2007).

Therefore, the rural midwives in this study saw their midwifery role as one that monitored and supported women with the expectation of a normal birth (McIntyre, 2012) and that failure to do so would be to fail the women both physically and ethically (Hastings-Tolsma & Nolte, 2014). This support for the process of normal birth did not mean however, that the midwife was unaware of the need for careful watchfulness (Page & Mander, 2014). They were clearly aware of their surroundings and conscious that unforseen complications could arise and require transfer.

Changes to the rhythm of labour are commonly experienced by midwives working in primary care. This move to sensing that progress is slower than expected is described by Iannuzzi (2014) as a question of whether it is a "rest or arrest" given the variability of labour progress patterns amongst women. Similarly, where the midwife reached her boundary for normality Page and Mander (2014) described this situation as 'intrapartum uncertainty'; this boundary mediated by the quality of the relationship with the woman and her colleagues, and the nature of the birth setting (Page & Mander, 2014).

Moving from heuristic and probabilistic thinking

When labour slowed in what otherwise was a normal labour process, the midwives described a 'mind shift' as they moved their thinking about the situation from 'normal' to possibly 'abnormal'. This may include foregrounding recent experiences where women with similar labour patterns birthed without incident, or a situation where the clinical situation changed and urgent transfer was required. Similarly, the midwives might be seen to be 'anchored'

(Gilchrist & Bonato, 1995) in some situations to the view that labour will progress inevitably and adhere to this view despite signs to the contrary.

In one comment the midwife was expecting the woman to birth normally and was willing it to happen but realised she needed to stop and get some perspective. If she continued to normalise a situation that was becoming unduly prolonged this false perception of the situation could mean that some signs were ignored in favour of those she wanted to see. It is in these liminal decision spaces Tversky and Kahneman (1974) suggest we are most subject to our heuristic devices of availability and representativeness.

At the point that the possibility of transfer was discussed, some of the women chose to continue to labour at the rural unit in the hope of progress; these decisions at times, stretching midwives' boundaries for transfer. This connection between risk tolerance and relationships was also found in a Scottish study examining transfer decisions between practitioners (Cheyne et al., 2012) where the midwives and obstetricians were found to make similar judgements in relation to two *intrapartum* scenario vignettes. They differed however, in their decisions about transfer with the midwives tending to transfer less readily.

These differences may be more about individual risk tolerances of both the midwives and the women and the quality of the relationship (Cheyne et al., 2012). For example, in some situations the woman may appear unprepared to take responsibility for her contribution to the decision making role (Cooke, 2005). Such a position may reflect her social positioning and how relationships and other aspects of their lives are managed. Similarly, the woman's desire for her birth experience may differ from those espoused by the midwife and she may be reluctant to say so (Hunter, Lundgren, Olasfsdottir, & Kirkham, 2008).

When discomfort was experienced by the midwives, most of them consulted with their colleagues. This provided the opportunity to stop, and to potentially share the 'slow' probability thinking advocated by Kahneman (2011) in an effort to untangle the components within the decision process (Cioffi, 1997, 2012; Morris, 1972). Where the patterns and cues did not fit the midwives moved to a probabilistic decision making strategy (Jefford, Fahy, & Sundin, 2011). This was demonstrated by one midwife who asked herself " what is the risk at this moment and what is best to do now" using a logical process for making the decision to avoid reacting to her sense of panic.

However, once others are drawn into the decision making their combined heuristic approaches, and decision strategies, add further complexity. (van der Hulst et al., 2007). Such a viewing of the context of decision making resonates with the rural settings in this current study; particularly where the unit is situated at some distance from specialist care and other colleagues, specialist teams and often those unfamiliar with the rural environment are involved in advising regarding the timing of the transfer.

Locating transfer decisions within the rural context

Rural communities have a keen interest in their local maternity services. This focus on birth is no surprise and has been described as a fateful moment in the lives of families (Scamell & Alaszewski, 2012). Most rural midwives are well known with personal, family and professional links in the community and this 'embeddedness' (J.A Patterson, 2002) or 'connectedness' (Lauder, Reel, Farmer, & Griggs, 2006) increases their visibility and prompts curiosity and scrutiny about their decisions around birth and transfer.

This complexity and entanglement of decision making within the embedded reality of social networks (Granovetter, 1985) inspired the description of a relational model of decision making in midwifery care which both makes and shapes the decision choices (Noseworthy et al., 2013). Positioning in this model is not seen as fixed and may change when complications occur and limit autonomy and choices for the woman; her choices also shaped with the political and cultural realities of the maternity care service available (Noseworthy et al., 2013). These realities in this current study include the rural settings and distance to specialist care, plus the availablily of colleagues to assist locally. These challenges were also found in rural Scotland where there are similar geographic challenges (Lambert, 2008).

Whatever decision strategies have been used once the transfer decision is agreed it must be acknowledged that it can be an emotional time for the woman and her family (Creasy, 1997). For example "feelings of failure and disappointment" were found in Skinner's (2005, p. 178) study experienced not just by the woman but also by the midwives involved. Similar findings for practitioners were found by Griew (2003) though the effect on practitioners involved was not always negative, particularly when a clear indication for transfer was identified.

So it is important that the process of analysing the clinical problem, and managing the logistics of transfer, that the woman, is not separated from the centre of care. Or, that the principles of shared decision making integral to this ethical partnership are neglected (Guilliland & Pairman, 1995; Hunter et al., 2008; Muoni, 2012).

Accepting these relationship and contextual factors, we argue that practitioner knowledge of decision theory, and an understanding of how we may be misled by our reliance on our more readily accessible heuristic instincts, could assist with decision making. In situations where labour slowed this would involve a 'stepping back' to take a slower, probabilistic view of the situation taking into account the clinical situation, the views of the woman and knowledgeable colleagues, and contextual variables. Thus in a rural setting we suggest that an understanding of decision theory and research can assist the midwife to arrive at an appropriate, timely, and defensible decision around whether or not to transfer.

Strengths and limitations of this study

This study gained insights from 15 LMC midwives in the south island of New Zealand, therefore the findings may not relate to the experiences of midwives in other rural areas or jurisdictions and a larger study of more diverse rural areas may have highlighted different decision making processes. Nevertheless, the strength of the study lies in the generous and candid comments of the midwives who shared their experiences and dilemmas when managing the challenge of slow labour and transfer decisions in their rural areas. The insights into the way decisions are made when outcomes are uncertain within embedded rural contexts provide the opportunity for future modelling for this and similar areas of midwifery practice.

Conclusion

Transfer in labour from the rural area to specialist care is part of rural maternity practice and midwives bridge the gap between primary and secondary care balancing the aspirations of the women in their care. For women experiencing slow labour, decisions about transfer can be challenging, often involving a 'mind shift' from supporting the process of normal birth in the rural area to having to consider the possibility of transfer involving varying distances and times. Knowledge of decision theory provides insights into our everyday heuristic strategies for making these practice decisions. When the midwife experiences discomfort, or a poor fit, there is the opportunity to engage a more objective, probabilistic, process rather than continuing to rely on heuristic strategies. Such a process would require the clinical situation,

the aspirations of the woman, the perspectives of colleagues and the particulars of the local context, to be taken into account. This complexity of decision making was demonstrated by the midwives in this study in the circumstances of slow labour progress, suggesting that this considered, nuanced understanding of rural practice contributes to timely and safer decisions while maintaining the confidence of colleagues and rural communities.

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